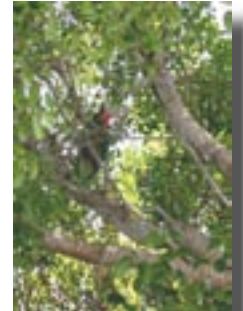


Caribbean boasts large areas of fire-dependent native pine forest.

by **Joseph O'Brien**, Ph.D.
Research Ecologist

Most people's images of Caribbean islands include deserted beaches, palm trees, rum, and pirates. Few know that the Caribbean boasts large areas of fire-dependent native pine forests. Extensive stands of endemic pines occur on the islands of the Bahamas, Cuba, the Florida Keys, Hispaniola, Honduras, and the Turks & Caicos. These unique tropical forests are fire dependent with some of the southernmost pines in the world. Typically the overstory contains one or two pine species and a very diverse understory that is low in stature. Bahamian pine forests resemble slash pine flatwoods of the coastal Southeastern US; Hispaniolan pine forests resemble longleaf-wiregrass stands; other forests are more like Rocky Mountain ponderosa pines. The similarity to US forests is only superficial; each island has a unique complement of species that structures its ecological communities. These forests share a common trait: all are hotbeds of biodiversity. The wide range of soils, topography and isolation among the islands has resulted in the evolution of many endemic plants and animals. For example in the Bahamas, the "pineyards" are home to a unique ground nesting parrot. High elevation Dominican pine forests have a relict Pleistocene bird community more typical of boreal forests, including scissor-bills and siskens. Nevertheless, the trogons and parrots flying around are reminders that you're in the Tropics. Incredibly, almost half of Cuba's flora is found nowhere else; Hispaniolan plant endemism is a close second at 36%. Island pine forests also serve as important winter habitat for many migratory birds including the endangered Kirtland's Warbler, and Bicknell's Thrush. Surprisingly, these remarkable forests have been almost completely ignored scientifically. The region is a frontier, especially with regard to fire ecology. The lack of scientific knowledge is a serious limitation to adequate forest management. In most of the region, fire management is *ad hoc* or non-existent and management is complicated by agricultural encroachment, fragmentation, and urbanization. Through partnerships with the Forest Service International Program, USAID, and The Nature Conservancy, unit staff has begun studying fire ecology, focusing initially on The Bahamas and the Dominican Republic. Last year, Joe O'Brien and Mac Callahan initiated a research program in Abaco National Park, to determine how different fire return intervals affect the ecology of Caribbean pines, endemic plants, and important wildlife food plants. We also want to understand the role of fire in soil ecology, nutrient dynamics, and measure the impact of fires on the nest environment of the endangered Bahamas Parrot. This work is in partnership with The Nature Conservancy, the Bahamas Department of Agriculture, the Bahamas National Trust and local NGOs. This information will help Dominican forest managers, who are critically short on resources, to prioritize areas for fire management activities. Helping our neighbor countries manage their forests benefits our country as well. For example, most pine rocklands in the US exist as highly degraded fragments in South Florida and the Keys. The Bahamian pine rocklands, which still occur in pristine contiguous tracts, can act as a benchmark for restoration of US pine rocklands. Additionally, good management of the wintering grounds of Neotropical migratory birds is critical for the maintenance of US populations. A direct impact of helping establish good fire management practices on Hispaniola that avoids mudslides and damage to downstream rice farming will be the alleviation of further human suffering in one of the poorest nations on the planet, Haiti. On your next Caribbean vacation, forget the beach and break away from the herd. Head inland to enjoy some of the rarest and most unique pine forests you'll ever set foot in. It will be a memorable experience, especially if you stumble into a poisonwood thicket.



Kirtland's Warbler

Bicknell's Thrush

Bahamian Parrot